Yalan He

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EDUCATION

Fudan University Shanghai, China

- Bachelor of Engineering in Computer Science and Technology Sep 2023-Jun 2027
- GPA: 3.81/4.0, Ranking: 11/90

Aalto University Helsinki, Finland

- Exchange Studies in Computer Science Sep 2025-Dec 2025
- GPA: 4/5

RESEARCH

Guozhang Chen's Group, Peking University Oct 2025-May 2026

Research Assistant *Advisor: Guozhang Chen, Assistant Professor at Peking University*

- Conducting follow-up research on"Decoding Cortical Microcircuits," where I leveraged expertise in graph theory to optimize deep learning models for synaptic connectivity prediction.
- Analyzing the MICrONS dataset (large-scale connectomics) and refining Graph Neural Networks (GNNs) to improve edge prediction accuracy in complex heterogeneous networks.
- Exploring the principles of Spiking Neural Networks (SNNs) and Brain-Inspired AI, aiming to leverage biological insights to design more efficient and robust computational models.

Mobile Cloud Computing Group, Aalto University Aug 2025-Mar 2026

Research Intern *Advisor: Yu Xiao, Associate Professor at Aalto University*

- Benchmarked state-of-the-art 3D body pose estimation algorithms (e.g., SMPLest-X, AiOS, NLF-L) on the TULIP dataset; optimized the pipeline by integrating SmoothNet for temporal smoothing, significantly reducing jitter in extracted joint data.
- Provided technical support for an HCI workshop that compared human experts vs. LLM in wearable design; deployed pose estimation algorithms to generate visual Ground Truth (GT) for validating wearable sensor performance.
- Contributed to the analysis of embodied, physically viable design capabilities of AI, and facilitated the iterative evaluation of sensor placement strategies.

Big Data and Networking Group, Fudan University Feb 2024-Present

Research Assistant *Advisor: Qingyuan Gong, Youth Associate Research Fellow at Fudan University*

- Developed a robust social bot detection framework with Heterogeneous Graph Neural Networks, which integrated attention mechanisms to capture complex interaction patterns.
- Modeled social media data as Heterogeneous Information Networks with large-scale benchmark datasets (e.g., TwiBot20), and organized diverse node types and edge types to improve model interpretability.
- Transitioned research focus to Large Language Models, investigating the behavioral sophistication of LLM-driven bots compared to traditional social bots.
- Engineered realistic bot simulations via LLM Agents, leveraging generative AI to create adversarial testing environments and enhance the resilience of detection algorithms.

PAPER

- **Fine-grained Motion Retrieval via Joint-Angle Motion Images and Token-Patch Late Interaction,** Yao Zhang, Zhuchenyang Liu, Yalan He, Thomas Ploetz, Yu Xiao, *EECV 2026 Conference* (Submitted)
- **Exploring Human-AI Collaboration in E-Textile Design: A Case Study on Flex Sensor Placement for Shoulder Motion Detection,** Zhuchenyang Liu, Yao Zhang, Yalan He, Hilla Paasio, Changyi Li, Guna Semjonova, Yu Xiao,

EICS PACM 2026 (Submitted)

HONOR & AWARD

- Second Prize of the Scholarship for Outstanding Students at Fudan University — Oct 2025
- Shanghai Municipal Second Prize, China Undergraduate Mathematical Contest in Modelling — Dec 2024
- Third Prize of the Scholarship for Outstanding Students at Fudan University — Oct 2024

SKILL

- Languages: Chinese (Native), English (TOEFL Total 112: Reading 30, Listening 30, Speaking 24, Writing 28)
- Programming Languages: Python, C, C++, SQL
- Libraries & Tools: NumPy, Pandas, Scikit-learn, Matplotlib, PyTorch, PyTorch Geometric (PyG)